

ABSTRACT OF THE DISLOSURE

The present invention provides a diffractive optical element having superior optical characteristics.

- 5 A polycrystalline substrate having crystal grains whose sizes are not more than 1 μm or an amorphous phase at the dry-etched surface thereof, or an upper film layer 8 formed on a polycrystalline substrate 1 being the same materials as that of the polycrystalline substrate 1, which has finer crystal grains than those of the substrate. The upper film layer 8 is dry etched, and AR
10 coat 6 is formed thereon.